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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/758,715 | 01/11/2001 | Kenneth Lloyd Westra | THOLAM P139US | 9530 |

20210 7590 07/15/2002

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| EXAMINER |
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LAVARIAS, ARNEL C

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| ART UNIT | PAPER NUMBER |
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2872

DATE MAILED: 07/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/758,715

Applicant(s)

WESTRA ET AL.

Examiner

Arnel C. Lavarias

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-62 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-24, drawn to a method of making a high reflectivity micromirror, classified in class 216, subclass 2.
 - II. Claims 25-62, drawn to a high reflectivity micromirror, classified in class 359, subclass 838.
2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the high reflectivity micromirror can be made by another and materially different process that includes reactive ion etching or dry lithography.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

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5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. This application contains claims directed to the following patentably distinct species of the claimed invention:

Applicant is required to elect one of the following species if election is made to

Invention I:

Species 1: a method of making a high reflectivity micromirror with the portion of the passage being removed being a passage extending parallel to the crystalline plane.

Claims 1, 2, 7, 21.

Species 2: a method of making a high reflectivity micromirror with the portion of the passage being removed being an inlet passage and an outlet passage which intersect at the crystalline plane. Claims 1, 3, 8, 22, 24.

Species 3: a method of making a high reflectivity micromirror with the exposed portion of the crystalline plane becoming a part of an exterior surface of the body. Claims 1, 4, 18-23.

Species 4: a method of making a high reflectivity micromirror with the exposed portion of the crystalline plane remaining positioned internally within the body. Claims 1, 5.

Species 5: a method of making a high reflectivity micromirror with several discrete portions of the crystalline plane exposed and several mirror surfaces formed. Claims 1, 6-9, 20-23.

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Species 6: a method of making a high reflectivity micromirror with the monolithic bulk crystal silicon having several crystalline planes. Claims 1, 10, 24.

Species 7: a method of making a high reflectivity micromirror with the monolithic bulk crystal silicon being cut into wafers. Claims 1, 11-13, 18-24.

Species 8: a method of making a high reflectivity micromirror with a means for selectively adjusting the reflection angle of the mirror surface. Claims 1, 14.

Species 9: a method of making a high reflectivity micromirror with the mirror surface being refractive. Claims 1, 15.

Species 10: a method of making a high reflectivity micromirror with the mirror surface being diffractive. Claims 1, 16-17.

Applicant is required to elect one of the following species if election is made to

Invention II:

Species 1: a high reflectivity micromirror with at least one passage extending across the crystalline plane. Claims 25, 26, 29, 40.

Species 2: a high reflectivity micromirror with the body having an inlet passage and an outlet passage which intersect at the selectively exposed portion of the crystalline plane. Claims 25, 27, 30, 41, 45.

Species 3: a high reflectivity micromirror with the crystalline plane positioned across an exterior surface of the body. Claims 25, 28, 38, 39, 42.

Species 4: a high reflectivity micromirror with axially aligned mirror surfaces spaced across the crystalline plane. Claims 25, 31, 42.

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Species 5: a high reflectivity micromirror with the body being a wafer. Claims 25, 32, 33, 52-56.

Species 6: a high reflectivity micromirror with a means for selectively adjusting the reflection angle of the mirror surface. Claims 25, 34.

Species 7: a high reflectivity micromirror with the mirror surface being refractive. Claims 25, 35.

Species 8: a high reflectivity micromirror with the mirror surface being diffractive. Claims 25, 36, 37.

Species 9: a high reflectivity micromirror with an actuator. Claims 25, 43, 44, 46, 57-59.

Species 10: a high reflectivity micromirror without a light penetrable membrane or internal cavity. Claims 25, 47, 52, 60.

Species 11: a high reflectivity micromirror with a light penetrable membrane. Claims 25, 48-50, 53-55.

Species 12: a high reflectivity micromirror with the mirror surface having a beam splitting function. Claims 25, 51.

Species 13: a high reflectivity micromirror with an interior cavity in the housing. Claims 25, 56.

Species 14: a high reflectivity micromirror with a reflectivity enhancing coating. Claims 25, 61, 62.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is

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finally held to be allowable. Currently, Claim 1 is generic to Invention I and Claim 25 is generic to Invention II.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

7. A telephone call was not made to request an oral election to the above restriction requirement due to the complexity of the restriction requirement.

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 703-305-4007. The examiner can normally be reached on M-F 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

Arnel C. Lavarias
July 10, 2002



Cassandra Spyrou
Supervisory Patent Examiner
Technology Center 2800